

## ABSTRACT

The present invention relates generally to the field of diabetes. More particularly, it concerns the identification of genes responsible for *NIDDM1* for use in diagnostic and therapeutic applications. The present invention demonstrates that the *NIDDM1* locus is, in fact, the calpain 10 gene. The invention further relates to the discovery that analysis of mutations in calpain genes and gene products can be diagnostic for type 2 diabetes. The invention also contemplates methods of treating diabetes in view of the fact that calpain mutations can cause diabetes. Further, the invention relates to novel polynucleotides of the *NIDDM1* locus and polypeptides encoded by such polynucleotides.